Inside this Issue:

Rod Mollise's
Skywatch

BIG 2002 Astronomy Software Roundup!

_____

AstroPlanner and the Planning/Logging Craze
or
"Finally, a New Macintosh Astronomy Program!"

Rod Mollise

AstroPlanner v1.1
Ilanga Software

A stronomy software has come a long-*long* way over the last decade. Ten years ago, in the Summer of 1992, that venerable DOS (remember those three letters, don't you?) program, Skyglobe 3.6, was all the rage with PC-totin' amateurs. It provided a tolerably attractive representation of the night sky on your computer, and even allowed you to display the Messiers and some *NGCs!*

Today, it's hard to imagine those dark days when a guy or gal couldn't even plot all the NGCs on the family PC. Not only has astro-ware gotten more full featured and data-laden (I expect a couple of the major programs to go DVD in the next year or two), it's branched out into several different software "families." The onscreen planetariums have continued to advance on their goal of making the sky shown on your computer as close to the real thing as possible—just look at the display of Starry Night, for example. The "deep sky" family, those programs like Megastar and Skymap, whose goal is more to build a computerized *sky atlas* on your screen than a super-naturalistic version of the night, are going great guns too. But there's now a *third* family of astronomy applications, the **planner/logger/databases**.

"Planning software," for want of a better name, is substantially different from both planetariums and deep sky programs. Believe it or not, in the planning programs charts actually take a backseat to other functions. These programs are essentially giant databases--many boasting as many as 500,000 objects (not including stars) out of the box--with very robust features to allow you to search for objects, build observing lists, and log your observations. And while charting is not the *main course* with these programs, you traditionalists will be relieved to know that all of 'em *can* draw nice charts.

At the moment, the best-known representatives of this new astro-ware genre are Deep Sky 2002 and Sky Tools. Both are excellent programs, and have led many observers to switch from deep sky

or planetarium programs to planning software. Unfortunately for Macintosh users, though, they've been left out of this new scene unless they've wanted to run a PC program on their wonderful Apples with the aid of an emulator—Sky Tools and DeepSky are Windows-only. But that's all changed now with the release of a full-featured, impressive planning program for the Mac, **AstroPlanner** (AP).

WHATSIT?

Like all programs in this category, AstroPlanner is at heart a database of stars and deep sky objects. Its main purpose in life is to allow you to generate a list of objects to observe. To this end, it is equipped with search tools and filters that enable you to create an observing list (either printed or on-screen) tailored to your scope, your sky and your observing tastes. The database engine that AstroPlanner uses is aware of when a particular object will be above or below the horizon for your location (which you specify), so it will also allow you to customize your list for a particular place, date and time if you wish. For any planning program to be effective, it must have a large selection of objects and catalogs available, and, indeed, a huge library is one of the prime attractions of this sort of software. AstroPlanner is certainly no slouch when it comes to astronomical catalogs. In addition to the familiar NGC and Messier, the AstroPlanner CD also includes the Abell Galaxy Catalog, the Arp Galaxy Catalog, the AL Double Stars, Barnard's Dark Nebulae, Patrick Moore's Caldwell Catalog, the Herschel 400 List, the IC, the King Open Clusters, the Lynde Dark Nebulae catalog, the MCG catalog of galaxies, the PGC galaxy catalog, the SAO star cat, the Sky 2000 star cat, the Stock clusters, the WDS and more (probably more than *I'll* ever need).

But the planning features of AstroPlanner are just a part of its capabilities. It is also, like the other apps in this league, a capable logging program, and will enable you to finally dispose of that tattered and yellowed observing log. Since being turned-on to planning/logging software, I have taken to recording (or at least transcribing) all my observations on computer. In addition to making for neater log entries (no 2 am scrawl in a computerized logbook), maintaining my log on a computer allows me to answer that time-honored question, "have I seen this one before?" with relative ease.

As mentioned previously, the planning/logging programs tend to de-emphasize charting, but they can all do at least a *little* map-drawing, and AstroPlanner is no exception. Forget atlas-style wide field charts, though; the most you'll get out of AP is a patch of sky about 10 degrees across. But, frankly, this is usually all I need out of a chart, since I now use a goto scope. I'm more interested in seeing "what else" is in the neighborhood than in how to find something via star hopping. If you need to see *exactly* what an object looks like, AP will retrieve a picture of your target from the Palomar Observatory Sky Survey (POSS) via the Internet.

But, as the late night TV pitchmen say, "THAT'S NOT ALL FOLKS!" AstroPlanner also integrates a very interesting and formerly stand-alone program, "Best Pair 2." This calculates the "best,"—the most effective--alignment stars for goto telescope users for a particular date and time. And, AstroPlanner will drive a goto scope to objects on your list. It will even do this via voice recognition (Macintosh only currently)! That's right, you can finally tell your NexStar or LX200 where to go! The program also displays current information about the status of the Moon and other need-to-know info to aid in your planning. Another aid to getting your list prepared is a window that displays a full-sky, planisphere-like

view of the sky. In summary, this is a very rich program that provides you most of the tools you need for deciding what to observe on any given night.

WHYZIT?

When I'm preparing to review a piece of software, I always try to get an answer to the question, "*Why* did you write this?" from the developer. Beware of a program whose author answers, "for the money" or "DON'T ASK ME, 'CAUSE *I* DON'T KNOW!" Paul Rodman, AP's developer, definitely passed this test, responding:

"I'm a computer geek by profession and, although I develop for and use several platforms I prefer to use the Macintosh wherever possible. Unfortunately when it comes to astronomy the Mac is not well represented. True, there are assorted planetarium applications such as Voyager, The Sky and Starry Night, but that's about it. There are no serious contenders in the fields of CCD camera control, image processing or observation planning and logging.

I decided to even the playing field a bit and create an application to do observation planning and logging. To my knowledge there are no other apps on the Mac that do this, apart from some simple database-oriented offerings."

HOWZIT?

'Twas a beautiful Summer's eve as I headed the Camry into the driveway after another demanding week at the shipyard. Birdies were chirping, a balmy breeze was blowing, and the air was a little dryer than usual for August. Yes, the weather gods were teasing me. I could feel the thick decks of clouds getting ready to pounce on me and rule out even a brief observing run. And, yes, a glance at the horizon revealed a dark band, an approaching storm

front heading for me and my telescopes. Ah, well. Opening Chaos Manor South's massive portal, I scanned the mail piled-up in the front hall. Usual junk. Except…a nice manila envelope that my greedy fingers attacked instantly, revealing the AstroPlanner CD. Good. With a new astro-ware program to learn, I wouldn't HAVE to go outside!

When it comes to ease of installation, today's astronomy programs range from "not bad, not bad at all" to "YUK, Horrible!" I'd place AstroPlanner midway between these two extremes. Everything you need for either the Macintosh or the Windows version is there on the CD, but there's no installation program at
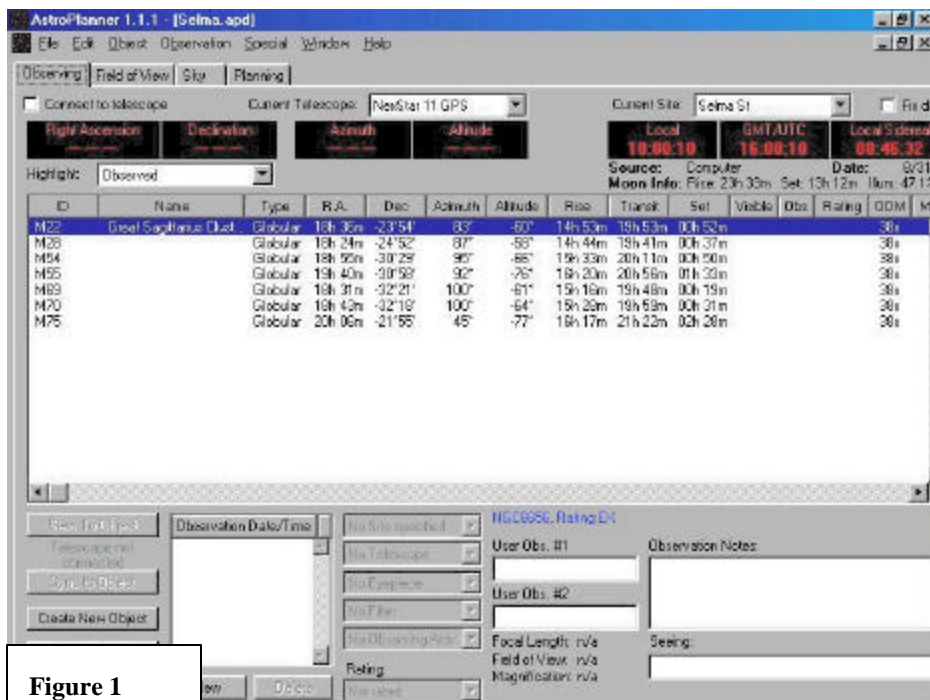

Figure 1

all. You drag the required files onto your hard drive from the CD. Once the folder is happily residing on your disk, you can create a shortcut to the program and drag it onto your desktop. Not a big deal, but, yes, this can be a little daunting for the less than computer savvy among us. I'd suggest that an installation dialog/program would make things a little less hairy for the computer novice trying to get her new program up and running.

But the crucial thing is what happens when you click on the little icon for the first time. In my case, unfortunately, the answer was "not much." Shortly after it started the program crashed. I tried reloading from the CD. Uh-uh. No dice. I tried loading it on another Win computer (my Mac is at work). Nope, same thing. Well. Darnit. Looking over the documentation and the AstroPlanner website, I began to worry that the problem might be my OS.

According to Paul, the Win version program is really designed for Windows XP or 2000 or NT systems. Due to the resources-hungry nature of the program, it's not guaranteed to run correctly on a

98 machine (which is all I have at home right now other than Linux). I didn't feel like waiting 'til Monday to try my new program, though, so I emailed the author for help. He responded quickly, suggesting that I try loading a fresh copy of a data file off the website, as he thought the one on the CD might have become corrupted. "OK…I'll try that." I really didn't have much hope. But, believe it or not, it worked. I had the program operating on my somewhat

antique Windows 98 machine not long after I replaced that bad, ol' file!

Once the program loaded, I was asked whether I wanted to start a new file or open an old one. I told AstroPlanner I wanted to begin a new file, and in due time was greeted by the nice-looking "Observing" display in **FIGURE 1**. Looking over the documentation (a .pdf file that is well done and includes a very good quick-start tutorial), I determined that the first thing to do was tell AP about my site, scope and eyepieces. Yes, I actually read the documentation that accompanies software—especially with the not-always-easy-to-fumble-through planning programs. Clicking open the edit menu brought me to the "resources" menu. The tab for "site" being on top, I proceeded to enter my location data. I was a bit miffed that it didn't have a list of cities, but entering my latitude and longitude was really not a big deal, and since you'll probably enter multiple sites for your hometown—club, backyard, etc.—this is not a big handicap. You can have the program automatically read the time-zone data off your computer (and location data if you have a Mac). One nice feature is that AP allows you to specify the sky quality of your site. After finishing with my location, I clicked the "telescope" tab, chose my instrument from the list presented (you can select more than one scope if you're an amateur telescope BUYER like I am), and, that done, specified a few of my eyepiece via the—you guessed it—eyepiece tab. You can enter data on filters and other accessories, too, but I bypassed that for the moment.

Exiting the resources window brought me back to the Observing screen (which you can see is nicely arranged and informative). But seeing as this window's object data area was blank, I figured that I'd better find out how to fill it. The handy-dandy tutorial instructed me to click the "planning" tab. I did so

and was transported to the window shown in **FIGURE 2**. You can retrieve objects manually, one at a time by entering an object number in the ID field, but most of the time you'll probably want to retrieve those faint fuzzies, whether singly or in groups, using the search/filter tools. To do so, you pull down the "select catalog" window and specify the catalog or catalogs you want to draw from. Keeping things simple to start, I chose "Messier." When this was done, I was presented with a filter window that allowed me to narrow my search. I chose to limit my search to the globular clusters contained in Sagittarius. This was done with a couple of clicks, and I was soon presented with a list of the Archer's familiar, friendly globs with vital statistics for each star-ball. At this point, I could have chosen the clusters I wanted to add to my observing list one by one. But since I was just playing around at this point, I chose "add all". This placed all the Sagittarius clusters in my list. I was able to view the list, then, by clicking the "Observing" tab, which returned me to the original window, now filled with globulars.

Back at the Observing window with your list composed, you can now work with your data as you see fit. Clicking an object allows you to add log data for it once you've done your observation. This is also where you'll send commands to a goto scope. While I haven't tried this feature yet, the prospect is exciting (I'm actually new to the amazing world of computerized SCTs). A press of the "show field of view" button will allow you to produce a surprisingly detailed and attractive chart of either a field tailored to one of your eyepieces or of the general area of a fuzzy (see **FIGURE 3**). The remaining tab, "Sky" allows you to both access the planisphere view of the whole sky and the Best Pair 2 utility. Any and all of this can be printed, including the field-of-view window, which produces a particularly nice and clear full-page star chart.

HOW GOOD?

As I've said in just about every software review I've ever written, no program is perfect. Some are better than others, of course. I'd rate AstroPlanner at *least* in the "well above average" category. While the author warns you on the website that this is a "deep" program and
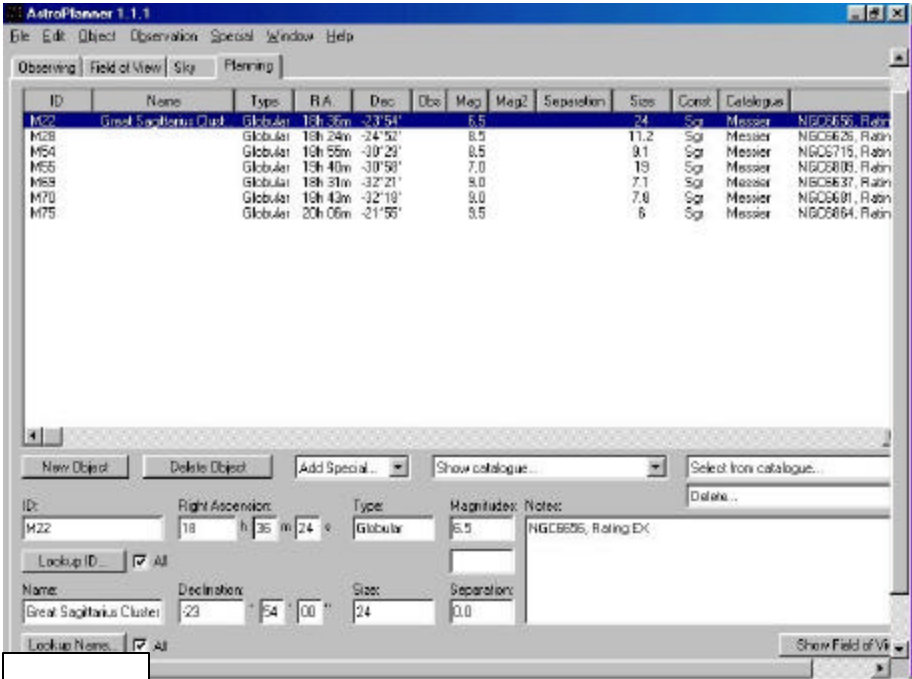

Figure 2

that you may need to work with it for a while in order to become proficient, I actually found it to be *quite* user friendly, especially in comparison to other astro- planning databases. I did look at the docs, but a ten-minute tour via the tutorial and I was honestly ready to use the program in the field.

How is the program technically? Very nice. The Macintosh version works very well indeed. It is perhaps not *quite* as smooth and polished as some commercial applications, but it runs *impressively*, no doubt about that. And I have no doubt that the Windows version will do comparably well under Windows XP/NT/2000. And I hope to be able to evaluate it under one of those OSes soon.

But for now, I've only been able to check out the Windows flavor under 98. How did it do? OK. But there *were* a few glitches. Screen redraws when resizing a window were slow, though not annoyingly so. I also noted occasional "flashes" on the data portion of the Observing screen as the clock updated. I *was* able to crash the program occasionally by trying to open a new file with an old one still onscreen. I also found that I could not retrieve POSS images from the Net with the Win version (using my dial-up Internet connection). Attempting to do so brought on the infamous Blue Screen of Death immediately.

I have no doubt that most, if not all, of these problems are indeed related to Windows 98's resource allocation problems and will clear under a more modern Windows. But don't get me wrong--the program worked acceptably well under 98 almost all the time (I even left it running for several hours as a check, and didn't note any problems or anomalies). Actually, since my real interest in this program is as a Macintosh application, being able to run it under Windows at all is really just **gravy**.

IN SHORT

Once I got AstroPlanner up and running, I became very fond of it in a hurry. The home "Observing"

Window is particularly well designed, and gave me a nice warm fuzzy as I surveyed my data. Would I pay for AstroPlanner? *You're darned right I would*. Frankly, the program would be worth quite a fancy price for Mac users, as there is NOTHING comparable out there. But it doesn't have a fancy price. At $30.00 for a CD containing both the Mac *and* Windows and versions how can you possibly go wrong? This is a steal, boys and girls! If you've got a high-speed Internet connection, you can go even lower, getting AP for an astonishing 20 bucks U.S.! Don't wanna take MY word for how good it is? That's OK, you ain't gonna hurt *my* feelings! A slightly crippled version of AP is available for FREE. The only "crippling," actually, is that the free version only includes the Messier and NGC DSO catalogs and the Yale Bright Star star catalog. Windows user? Well, you oughta go get AP too. Sure there are other options for you vis-à-vis planning/logging programs. But for 30 bucks? And this pretty? I don't *think* so!

WHAT YOU NEED

MAC:

A Power PC Mac running OS 9.0 or higher (including OSX). 128Mb of RAM. 10-100 Mb hard disk space (depending on installed catalogs). 800x600 display.

PC:

Windows NT/2000/XP *highly* recommended. It will run on Win 95/98, but lack of resources may be a problem. 128Mb is required, and for the older operating systems, more memory is desirable. 10-100 Mb of disk space is needed. The author recommends that you "try before you buy" if you intend to run AP on 95/98 (it will NOT run at all under Win 3.1).

Where to Get It:

http://ilangainc.com/astroplanner/
astroplanner@ilanga.com

Tell Paul that yer Old Uncle Rod sent ya…

The Return of Megastar:

Megastar 5.0

Willman-Bell
http://www.willbell.com

Upgrade Price: $39.95
Full Version: $129.95

What makes a piece of astronomy software *great?* Functionality? Yes. Features? Yes. User friendliness? Definitely. A continuing commitment by the author to keep upgrading and improving her/his work? For sure. Megastar, the "Sky Atlas for Windows," is a program that many enthusiastic deep sky observers have grown to love and respect over the ten years it's been on the street (hard to believe, ain't it?). I was hooked on the program from the first time I installed it on a computer. I can't say that I've been with Megastar from the first—the original edition on 40+ floppy disks didn't seem very practical to me—but I've been aboard as an enthusiastic supporter since the first CD release. But in recent times I'd begun thinking about replacing Megastar as my primary charting/observing tool. *Why?* Megastar still fulfilled *most* of the above characteristics of "good" software. But with the notable exception of our last specification. *Megastar had not been updated in a major way since 1997.*

For astronomy software—or any kind of software—five years is a very long time. There was no doubt that Megastar 4.0 was beginning to show its age. The author, Emil Bonanno, had continued to issue minor upgrades and enhancements
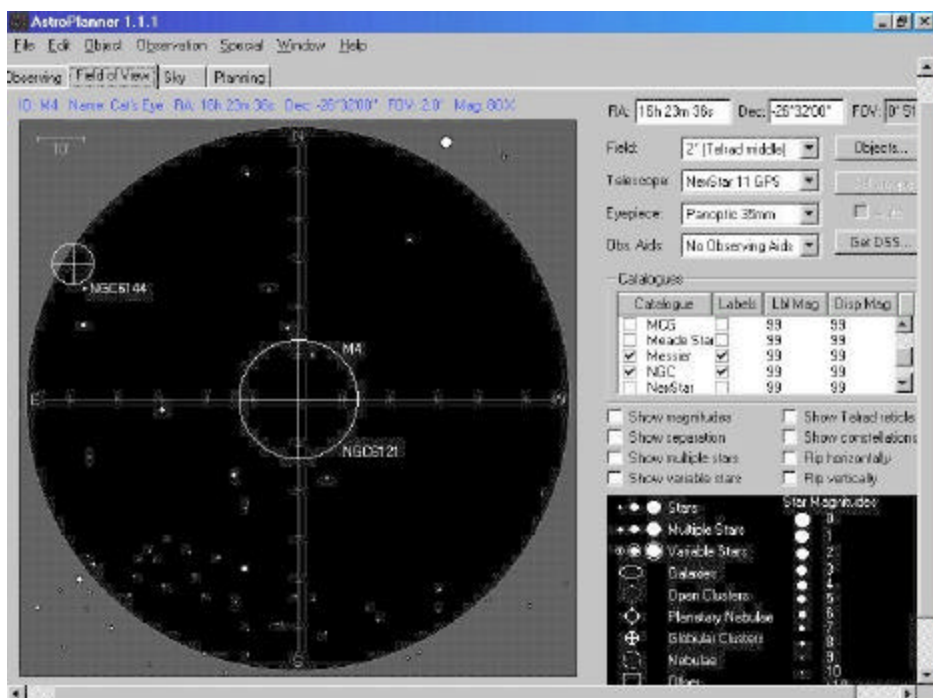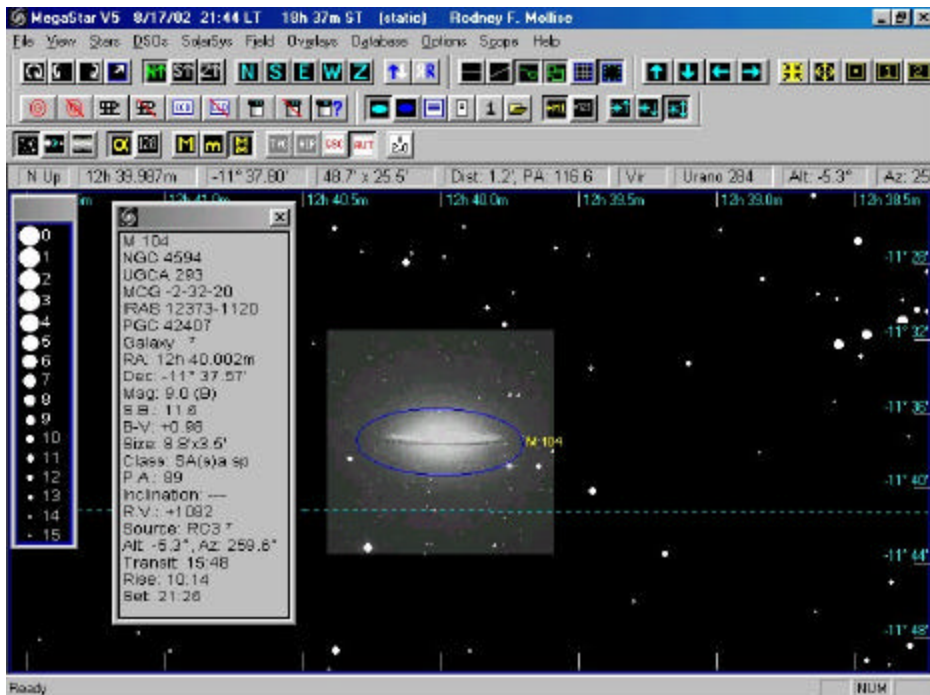
regularly, but nothing that added major functions or that changed the basic look and feel of the program. Which is not to say that I had stopped using Megastar. Far from it. Even today, 1997's 4.0 is still one of the easiest to use, deepest computer sky atlases (the type of astro-ware we usually refer to as "deep sky programs") around. It was just that the other big names. Skymap, and The Sky to name two, were beginning to move well past Megastar in the features race.

What was 4.0 lacking? How about images? Nicely plotted charts with scaled symbols for deep sky objects (and isophotes for nebulae) are fine. But sometimes you need to see exactly what a deep sky object looks like. Megastar 4.0 does allow you to use the Realsky CDs, the multi CD set of POSS images, but Realsky is expensive and annoyingly clunky to use. Other recent deep sky programs, including the freeware Cartes du Ciel, allow the user to download DSS/POSS images off the Internet automatically as needed. No CDs to pay for or fool with, and images that are higher in resolution

compared to those on the Realsky set. Megastar's user interface was also a sore point. Very usable for the person used to the program, sure. But Megastar's original DOS heritage and underpinnings definitely show in a user interface/menu look and structure that diverges from the Windows standard. Plus, frankly, Megastar just didn't seem as attractive as the other recent programs. That doesn't make much difference in functionality, but a nicely designed, good-looking program is something we all appreciate. Was it time to switch? I thought so. I hated giving up Megastar's incredible databases, the best in the business, but I decided it was time for something new.

So, did I switch? Yep. But to the NEW Megastar, 5.0. Just as I was contemplating Megastar's competitors, I received word that Emil was beta-testing a new version of Megastar. No word on when it would be ready, but I decided that it was worth waiting a month or two to see what developed. In due course,

I found out that Megastar's current distributor, Willman-Bell, would be releasing Megastar 5.0 early in June. Did I immediately order a copy? You bet I did, Bunky, after I got a look at the advance publicity outlining 5.0's new features:

- Updated databases with hundreds of corrections and 80,000 new galaxies in the MAC (Mitchell Anonymous Galaxy Catalog).
- The Tycho 2 stellar database.
- Support for the huge, new USNO A2.0 star database (the successor to the GSC).
- Option to display stars in colors based on their spectral classes.
- New toolbars (many of these), and a better-looking user interface that's still similar enough to the old Megastar to keep veteran users happy.
- 160 customizable hot-key combinations.
- Customizable object symbols.
- More printing options, including option for printing multiple windows on one page.
- Solar system animation and improved planet depictions.
- Ability to rotate fields freely in addition to ability to rotate/flip.
- IMAGES for 78,000 deep sky objects.
- Ability to import DSS/POSS images from Internet.
- Many additional interfaces for goto scopes.

Yeehaw! Sounded great. But how would the reality be? In due time the CD was in my hands (how come everybody can't ship things as speedily and cheaply as Willman-Bell? Their shipping fee is STILL a measly $1.00.). Once the box was open what was the first thing that struck me? How many recent astronomy programs you've purchased have come with a printed manual? Not many, right? Ok, how many have come with a manual that's a hardcover book with an introduction by Richard Berry? That's right. Megastar's new manual

Figure 4

is a 150-page **book** with a nice index and numerous illustrations. I was immediately impressed. But, since you can't judge a book by its cover or an astronomy program by its docs, I set about to see how easy it was to get this thing installed.

Very easy. Click on the installation program in My Computer to get it started and answer the few questions that it poses and you're done. It is worth noting, if you're a previous user, that Megastar 5.0 is a whole new program rather than an update to the old program, and must be installed in a new directory rather than into your existing Megastar 4.0 directory. You can leave Megastar 4.0 in place if you wish, as both can coexist on your hard drive without causing problems. You can choose to place all the information from the CD—the Hubble GSC and the images, for example--on your hard drive or you can leave them on the CD. I strongly suggest loading everything on your hard drive if you have the room, as this speeds up the program's operation considerably. Once your installation is complete, you can start the program and go about configuring it as you would any other astro program. The manual is clear and the menu structure is easy to decipher, so you shouldn't have any trouble doing this. If you're a previous Megastar user, however, and still have the old program on the hard drive, the 5.0 CD contains a utility that will take your location and preference data from 4.0 and send it over to 5.0. You'll be up and running without having to remember the position of your favorite observing site or re-entering all your eyepiece data!

What was the first thing I thought when 5.0's display appeared on my monitor? "Geez, look at ALL THE TOOLBARS! WHERE THE HECK IS THE SKY WINDOW?" When you run Megastar for the first time, it defaults to "all toolbars on." 5.0 features ten toolbars, each with numerous buttons, and with all of 'em on, the sky display is limited to about 1/3rd of your screen on a smaller display! Not a very desirable configuration if you're using a 12 inch monitor like I am! Easy enough to cure, however. Clicking the "View" menu open and choosing "select toolbars" enabled me to clean up my screen by

Figure 5

choosing only the toolbars I thought I'd really use. You can drag and drop toolbars for a pleasing display as well. I probably chose fewer of these toolbars than many of you will. They are a nice option, but I've been using the program for so many years that I'm content to do most things via menus like I always have.

And how about Megastar's Menus? They look a lot better. And so does the menu bar. 4.0 had the

appearance of a DOS program running on the Win system, but 5.0 looks reassuringly Windows like. I do wish that the menu system adhered a little more to the Windows standard (file, edit, format, tools, etc.) instead of continuing the Megastar system (file, view, stars, DSOs, Solar System, field, etc.). But the system is easy enough to learn, and the fact that it's still basically the same meant that I didn't have to relearn the program.

How about the display? On boot up, it looks much as Megastar's sky always has. This is a Good Thing, as Megastar's display has always been one of its strong points (onscreen or on printout—Megastar's printed charts are about as close as any computer atlas gets to "typeset quality"). It is easily decipherable, not just by my tired eyes at 3 am, but by my beginning university astronomy students, so I know it's good. Other than the new option to alter field orientation by rotating it freely, the major change to the display is that you can choose to have the stars shown in colors based on their spectral classes. I don't know that this adds much to the usefulness of the program (except for astronomy educators), but it does make it look much better and more "modern."

But what's the one thing that's got Megastar users really excited? The images. As mentioned, the CD now includes 78,000 images, "thumbnail images" as the documentation calls 'em. How does this work? The
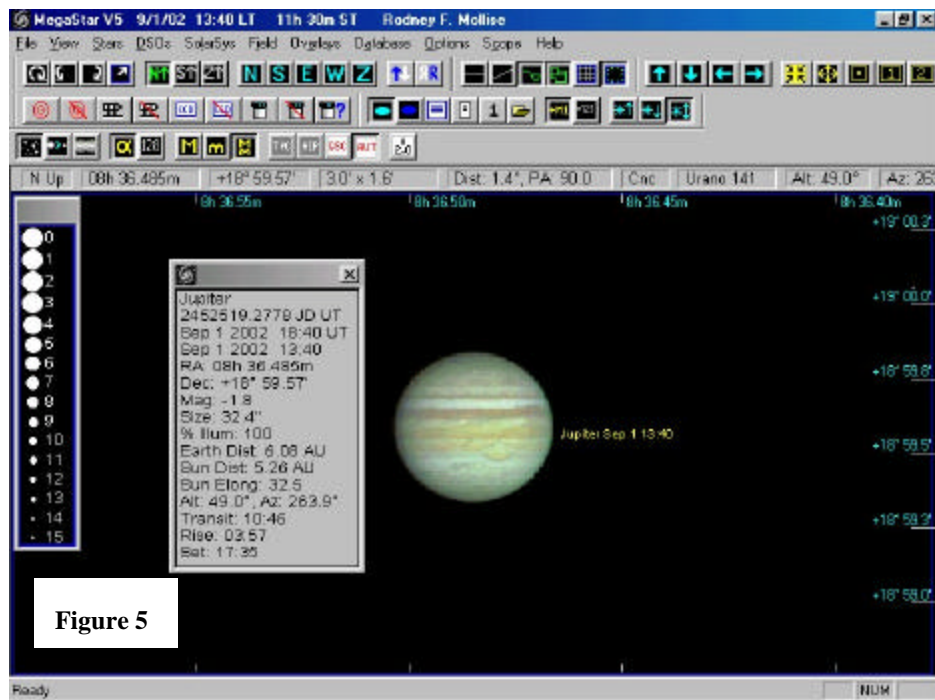
images are overlaid on your onscreen chart, meaning that you see a "real" picture of M104, for example, superimposed on your chart. There are two ways that these images can be displayed. You can set the program to "auto thumbnails" by choosing that selection from the Overlays menu, or you can bring up thumbnails as desired by right clicking on an object's description window. With Auto Thumbnails on, the image of your object will be placed on the chart when you're zoomed-in to a maximum field size of 6 degrees. If you zoom in tighter than 3 arc minutes the image will be removed. In other words, your image will be displayed on a field sized from 6 degrees to 3 minutes. You can't access the images manually unless you're within this field size range either.

How do these images look? Surprisingly good considering the fact that they are relatively small, low-resolution pictures. Pat Rochford and I are currently doing a Supernova search using Megastar and an LX200 (Megastar 5's goto scope control is simple and effective), and we found the images MORE than adequate for comparison to the CCD images we acquire. One thing that disturbed us initially was that we found that when we displayed an image everything except the image turned *red*. We determined that this is actually a "feature" designed to allow you to determine which stars are part of the image and which are plotted by Megastar in the event that the image star/computer star registration is not exactly perfect. If this disturbs you, there's an option to leave the computer-plotted stars white, or change them to any color you wish.

And "options" is really this program's main strength. It's nice to have images and the incredible, huge, accurate object catalogs, but the true value of Megastar 5.0 is that it allows you to move things around, change things, and set things up the way YOU want 'em. Pat and I found

that the object symbols weren't the way we wanted them and interfered, we felt, with the process Pat has developed for evaluating images. But, guess what? A little looking at the manual and we found we could make Megastar do *exactly* what we wanted. And that ability is rare for *any* program, boys and girls. Despite Megastar 5's multitudinous options (no wonder it took Emil a while to get this one out the door), it is still easy to use, too. Sure, you can change almost everything, but a novice use can still use the program as soon as it's installed on her computer.

Is there anything to complain about with 5.0? Well, y'all know I'm rarely satisfied with any program, but there's not too much in the way of nits to pick with Megastar. One thing that disappointed me was that the images on the CD, the thumbnails, are, with a few exceptions, all galaxies. I understand the space limitations imposed by the CD format, and that images of galaxies are probably more useful to observers than pretty nebulae and star cluster pictures. But it would have been nice to have a good selection of everything (maybe this will come soon if the program goes DVD). Solar System functions are much improved, with the planets showing realistic disks (See FIGURE 2). Unfortunately, these are just static images. Jupiter's Great Red Spot is always in the same spot. This is not a huge deal, but many programs now feature animated planets (Jupiter's spot, Mars' surface features, the tilt of Saturn's rings, etc.), and it would have been nice to have this in Megastar. If you bring up Jupiter or Saturn you'll notice something else funny. No moons. But don't despair—the moons will come. The animated planetary satellites were not quite ready to go at program release time, but we're assured they'll be supplied in a program update "soon" (I understand that Emil is also working on an enhancement that allows users to

manually reposition object labels in crowded areas—that will be really nice). Anything else? It would be nice if Megastar could download DSS images automatically and display 'em. Currently you have to download an image first, manually, and place it in a directory before Megastar can use it.

If it sounds like Megastar does a lot, you're *right*. If you'd guess that 5.0 requires a fancy new computer to run, you're *wrong*. Megastar is still one of the most forgiving astro-ware programs out there when it comes to computing hardware. Megastar 5.0 requires a Pentium processor, Windows 95 or better (or NT 4.0 or better), 32 Mb RAM, a 2x CD, 40 Mb of hard drive space, and an 800x 600 display. Obviously, like any program, the better your computer, the faster it will run, but these modest requirements mean that Megastar 5 is well suited for older "observatory" computers.

I've enjoyed using Megastar for the last 7 years. It's allowed me to accomplish observing goals that I'd have thought would be far beyond my capabilities. That's as good as an endorsement as I think anyone can make. If I had to express my feelings about Megastar 5 in a few words, I'd just echo Richard Berry in the last sentence of his introduction to the manual:

"Emil—thank you!"

DeepSky 2002

New Features for a Long-time Favorite

There are upgrades and then there are *upgrades*. The latest revision to DeepSky, DeepSky 2002, is more of an incremental one than something of major proportions like Megastar's transition to 5.0. And yet, the latest version of DeepSky does improve the user interface and the program's appearance, and

adds a few new functions to boot. Given the small price for upgrading from DeepSky 2001 to the 2002 CD, $27.00, any registered user would be well advised to take the plunge. What's new?

- "Outlook" (as in MS Outlook) style interface that places commonly used functions like Quick Chart and What's Up Wizard on an Outlook-style sidebar.
- Most of DS2002's screens have been updated in appearance and are more attractive.
- Nearby Target Search allows you to set an object as Home Target and then displays a listing of other objects that are near this Target.
- ASCOM Telescope support has been added. Since goto scopes are now controlled through the ASCOM interface/drivers, many more are supported.
- ASCOM Telescope Simulator. Simulate the operation of a goto scope without having it actually connected to the computer.

How does this new version work? Let's talk a little about what DeepSky 2002 *is* first for the uninitiated. While it has some competition out there now, DeepSky is the granddaddy of the Planning genre of astro-ware, having been on the scene for about four years now. What it is is a sprawling observing system that integrates a big sql database with 426,000 objects, extensive planning and logging features, and an interactive charting system (done by Dean Williams who also did the TUBA computerized atlas that complements Phil Harrington's book, *Touring the Universe Through Binoculars*). In addition, the program offers

· · · · · · · · · · · ·

extensive goto facilities for driving computerized scopes, Internet links to things like the DSS and the NASA Extragalactic database, many images of objects, and libraries of object descriptions written by some famous observers like Barbara Wilson. While the charts DeepSky draws are quite nice, you also have the option of letting the program plot skymaps using the freeware (and fantastic) program Cartes du Ciel. The Solar System isn't forgotten, either, with plenty of facilities for the comet/asteroid fan. The program has long included a simple Lunar map, but it now also provides a link to the new program by Cartes du Ciel's author, Patrick Chevalley, Virtual Moon Atlas. Being able to bring up this program's very detailed Lunar maps (and Lunar Orbiter images) means there's very little in the sky that DeepSky can't lay out before you, now.

But how is the *new* version? It's nice. I like having the function buttons on the sidebar, and the switch to the ASCOM system will be welcomed by goto-heads. Program operation? The program runs very well, especially on modern PCs with a good ration of memory (128Mb

and above), but, truthfully, the version that got DeepSky really running right was 2001. Earlier editions of the program were fun, but a little shaky. Since 2001, though, DeepSky's been pretty rock solid (as solid as any database program can be), and advances in this area in 2002 are minor.

What isn't here that I'd like to see in the future? The program will allow you to develop lists of asteroids and comets and add them to your observing plan, but you still cannot plot these objects on your charts. I'd like to see a full range of Solar System functions added to the charting module. Also, while the author calls the charts "interactive," they could be moreso. For example, most modern computerized atlases allow you to navigate by clicking on the chart. DeepSky still requires you to move around by using direction arrows on the chart control panel. While the program's logging system is extensive, even allowing you to do things like append your images and drawings to log entries, I feel the entry screens could be simplified and streamlined a bit. When you're using this program in the field at 3am, you want everything to be
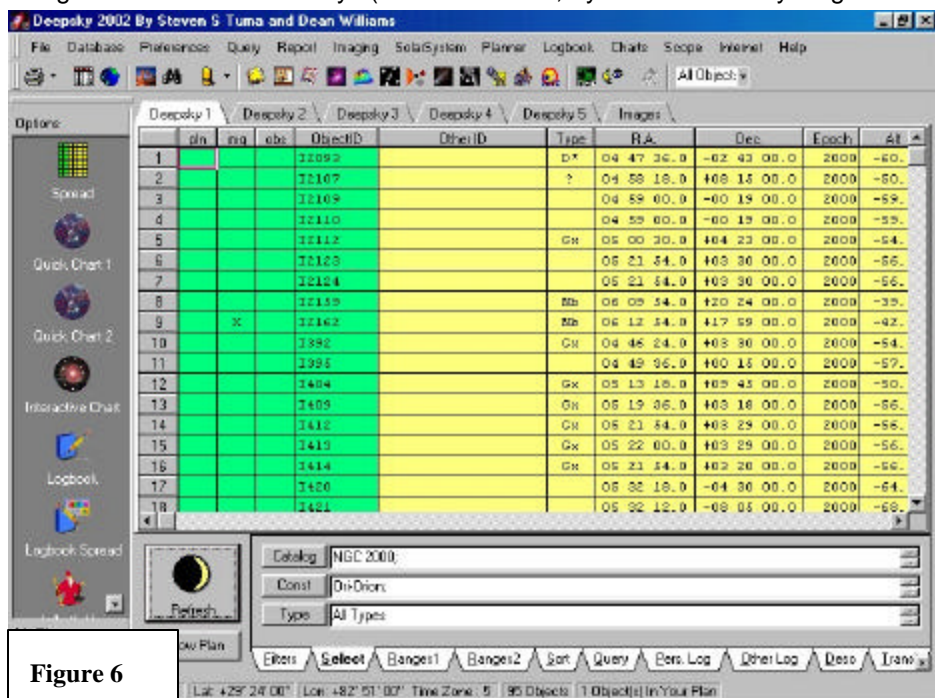

Figure 6

stupid-simple (I do, anyway!). Finally, if we're talking "wish list," I'd like to see the program's inventory of 800 DSO images increased. A lot. To something comparable to Megastar's 78,000—or more. Astro-ware program authors: who'll be the brave soul to test the DVD waters first?

Bottom line? If you're a DeepSky

Figure 7

fan, why *haven't* you upgraded to 2002 yet? If you haven't tried DeepSky--man, do *you* have a treat in store:

DeepSky 2002
http://www.deepsky2000.com

Full Version: CDROM $52.00 (426,000 objects, Hubble GSC).

Download Version: $23.00 (with reduced 26,000 object library and star cat down to mag 11).

Upgrade for current user: download is $10.00, full CD is $23.00.

Better and Better Cartes du Ciel v2.74

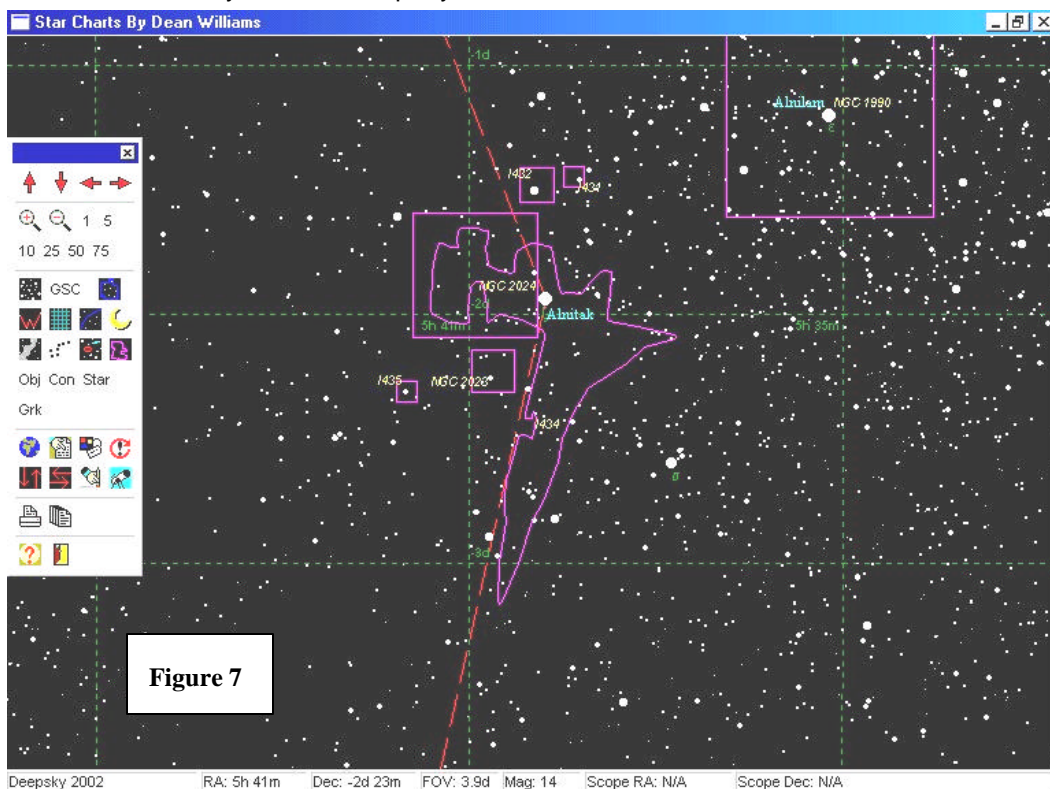Yeah, I know I'm obsessive about Cartes du Ciel (Sky Charts). I want everybody to at least *try* Patrick Chevalley's freeware astronomy program. Why? Maybe it's because I like the whole freeware and open-source way of looking at computers and the Internet (though I certainly admire people who write these wonderful astronomy programs—or any programs for a living). I mean, at least one of the computers in the house always has Linux (and Xephem) installed, so you know where I'm comin' from. But my respect for Cartes goes far beyond any philosophical musings about computer power to the people. It's just so darned nice to have such a capable tool available; especially one that you can recommend to that

young novice down the street who's trying to save for a couple of plossls to go with the 8 inch dob. No, I'm not ashamed to be continually singing the praises of Patrick Chevalley's Cartes du Ciel c2.74. It's the least I can do.

In my review of AstroPlanner, I mentioned how far astronomy software, astro-ware, has come in recent years, and that's certainly true of Cartes. When I first downloaded the program and gave it a spin…oh…about three or four years ago, Cartes du Ciel was an interesting, but problematical planetarium wannabe. It was kind of attractive, but it had a lot of problems, and I really couldn't point to much that it did right. It was dead slow and hard to navigate. I put it out of my mind and off my hard drive.

A year, maybe, passed and somebody in my SCT User group mentioned that I should give CdC another look-see. Reluctantly, I said I would. What a surprise! Not only had Patrick C. worked out the technical problems with the program, he'd redesigned the interface to something snappy and usable and had begun to pile on features. And he hasn't stopped to this day. Every new release brings MORE. More catalogs. The ability to import just about any catalog of deep sky objects into the program. Bitmapped stars. Excellent animation. A utility that automatically downloads POSS images from the Digitized Sky Survey site and superimposes them on your charts. Satellite tracking features that make owning a separate satellite tracking program superfluous. And much, much MORE. And it's still free.

I mean, it's *good* now. Very good. And capable of taking on a variety of tasks with just as much alacrity as the most expensive commercial whiz-bang. CdC features impressive printing, printing good enough to beguile the most dyed-in-the-wool print atlas holdout. It can *easily* serve as your sole deep sky charting program. But its extensive (and attractive) Solar System functions and its pretty depiction of the sky make it able to go head to head with any planetarium program. Got a goto interface? CdC can now utilize the ASCOM system, so many goto scopes can shake hands with it. Sure, I like astronomy software. I'm really almost a "collector." *My hard drive bulges with astro-ware old and new. But I can say without hesitation that I could easily subsist on Cartes alone.*

But this software roundup is supposed to be about new or upgraded programs. What's new with CdC? In the last year, CdC has gone from version 2.7 (a major change), to 2.74, adding features as it's gone. The most notable of these are:

- Realistic sky color and bitmapped stars and DSOs. These "realistic" features are just what you want in a planetarium. Gone are the square mid-sized stars and the gaudy colors to represent the spectral types. All in all, the display is more attractive (if not quite up to the standards of a

super-realistic planetarium like Starry Night). BUT…these "prettifying" features can get in the way of a deep sky observer who just wants a clear display. Luckily, all these gentrifications can be turned off with a mouse click or two.

Figure 8

- Continuing bug fixes and new (language) translations. Patrick is very good when it comes to providing the program in many languages—ranging from Chinese to Norwegian at present.
- Realistic, *working* images of the planets. Jupiter not only shows its cloud bands, the GRS is in the right spot.
- New utility to automatically download and unzip .tle satellite elements for the satellite tracking functions.
- Nebula isophotes (outlines). This was undoubtedly one of the most requested features. You now see the shapes of many nebulae, not just boxes.
- New search features, including a quick search that can be accessed without having to open the search menu, and the

ability to search by objects' common names.
- CdC now interfaces with the new Virtual Moon Atlas program.

What more does this program need? Not much, but I always want more, more, MORE, naturally! Mainly what I'd like to see with CdC is increased performance. The program is NOT slow in its current incarnation, but it could be a wee bit speedier (especially on my antique 600Mhz computer). Since many amateurs like to run software on last-generation "observatory computers," more speed w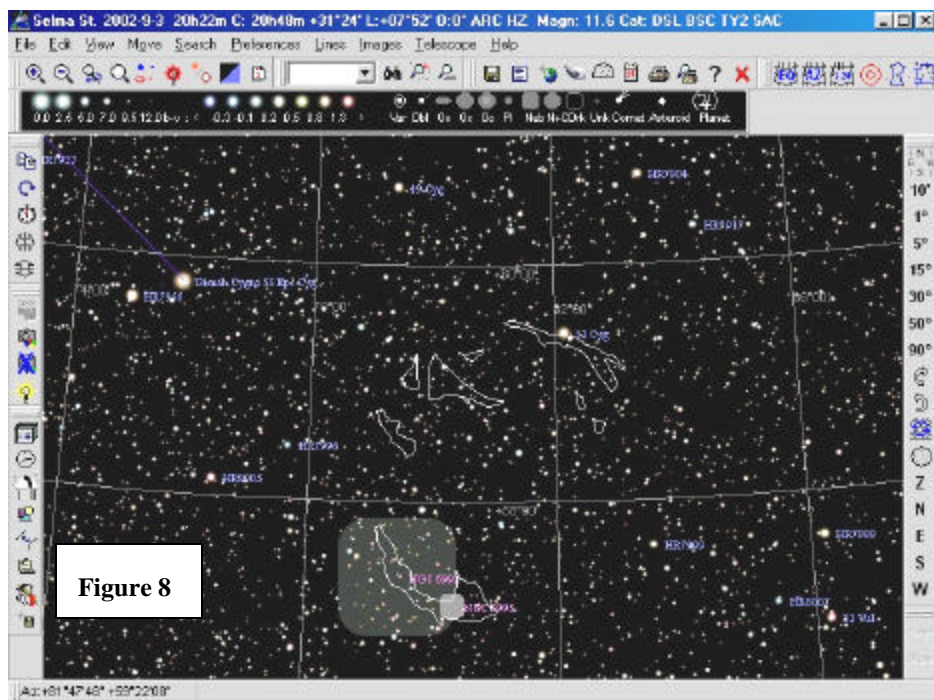ould be welcome if possible. What else? The process of opening an info window for an object could be made a little easier. I'd like to be able to move around just by clicking onscreen, rather than clicking and having to click again on a "center" selection that appears on a menu. Anything else? An ability to move object labels manually in crowded areas of the sky would be great (this is something I wish every program allowed, but, as far as I know, is only implemented in that DOS classic, Deep Space). Is that it? I'm very embarrassed to say that I can't think of much else CdC needs at the moment. This program is a labor of love, and thankfully, its author shows no signs of tiring of developing his wonderful creation. It just gets better and better.

Hey! Did I mention that Cartes is FREE?! Go get it tigers!

http://www.stargazing.net/astropc/

Virtual Moon Atlas v1.0
Patrick Chevalley

Over the last few years when I've been asked what I'd like to see in astronomy software that's not currently available, my answer is always the same, *"A Megastar for the Moon. Not some grander deep sky program with ever more star and deep sky objects, the programs we've got are more than adequate for almost anything. No, what I want is a Megastar for the Moon."*

What do I mean by "Megastar for the Moon?" I might just as easily have said "Skymap for the Moon" or "The Sky for the Moon." What I mean by this is a computerized Lunar atlas with a level of detail and features comparable to that of the big deep sky programs. The Moon has never lost its allure for amateur astronomers, and probably just about every working amateur—every active observer—is at least a part time "Lunatic." So it seems a little outlandish that in this day of computerized astronomy the serious Lunar observer's main tool is still a decade-old print atlas (Rukl's *Atlas of the Moon*). *Rukl* is a fine work, but far below the level of detail lusted after by the advanced Lunar worker. If Rukl's atlas were compared to print star atlases, it would be *Sky Atlas 2000*, not *Uranometria* or *Millennium*. But no matter how

much I squawked, no computerized Moon atlas was forthcoming. And there was no indication that one would be.

Then, all of a sudden, this past Spring, two—not ONE but TWO—PC Lunar atlases appeared. The first, Lunar Map Pro, a commercial offering selling for just under $100.00, looks promising and highly detailed, but I have not yet been able to try it. The second, Virtual Moon Atlas by Cartes du Ciel author Patrick Chevalley and Christian Legrand is, like Chevalley's other program, freeware. I downloaded and installed it the very day it became available to the public.

Virtual Moon Atlas 1.0 is an impressive feat of programming, and not just because of what it can do, but also because of the promise inherent in its well-thought-out structure. Like CdC, Virtual Moon Atlas, "VMA," is only available for download off the Web. Patrick feels

that by not attempting to distribute his programs on CD or other media, he frees himself from a lot of hassle and is able to concentrate on improving the software. The basic VMA download is small and relatively painless. To get the most use out of the program, though, you'll want to download the Lunar Orbiter images associated with it. If you have a dial-up connection, I'd advise using a large-download utility like Gozilla to make this practical (or even doable if you, like me, are hanging in with AOL!).

Once downloaded, VMA is easy to install. Clicking on the downloaded file in Explorer or My Computer starts an installation routine that takes care of the dirty work. You'll have to place the Lunar Orbiter images in the correct directory manually, but this is clearly explained in the online documentation (the docs' English translation from the author's native French could be better, but this will come, and the instructions are easily
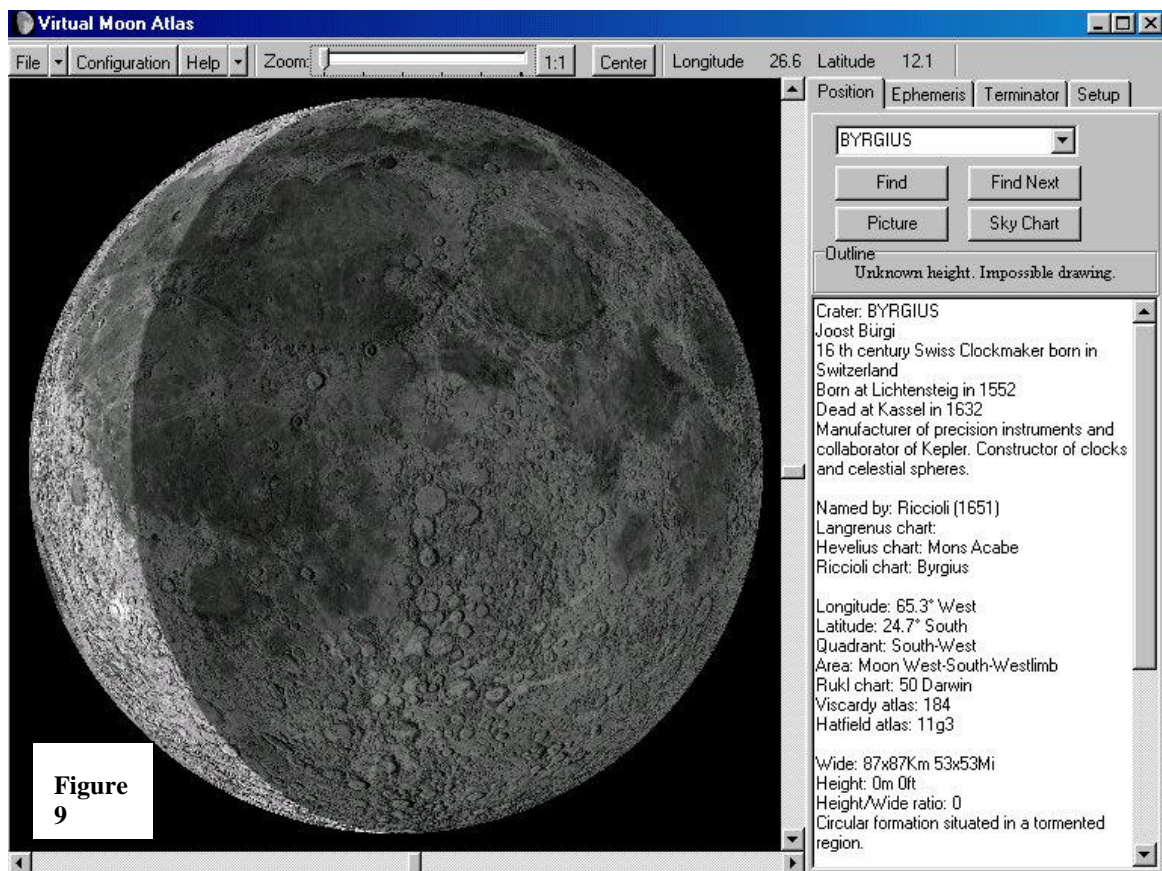

Figure 9

understandable as is).

What happens when you click that pretty little Moon icon? You're greeted with a display like that in Figure 9, an attractive depiction of the current phase of the Moon with an information window placed on the right hand side of the screen (until you click on a feature on the Lunar graphic this will actually be blank). Before doing anything else, though, you should proceed to the configuration window (by clicking the configuration button, natch). Here you can enter your observing site's latitude and longitude, specify whether your computer's graphics card is Open GL compatible

pointing and clicking. Move your crosshair shaped mouse pointer over a feature and click. The information (AKA "Position") window, the first of a series of tabbed windows, fills up with data on your selected feature. This is one of the nicest aspects of the program, and actually goes beyond the data included in some printed Lunar atlases/gazetteers I've used. Most features will be accompanied by background information on the person the crater or other feature's named for, it's exact position, a description, and a "rating" denoting its interest for Lunar observers.

If the selected feature is something

being reminiscent of a good air-brushed map. Below the "Find" button, you'll see one labeled "Picture." Push this while a major feature is selected, and you will usually be rewarded with the display of a Lunar Orbiter image of the area. This is one of the nicest features of the program, and holds great promise for its future usefulness. You've also got "Find Next," which toggles you from one feature to the next in alphabetical order and "Sky Chart," which brings up Cartes du Ciel if it's installed on your computer. Also in this area is a small graphic that provides a representation of a crater's cross-section if available.
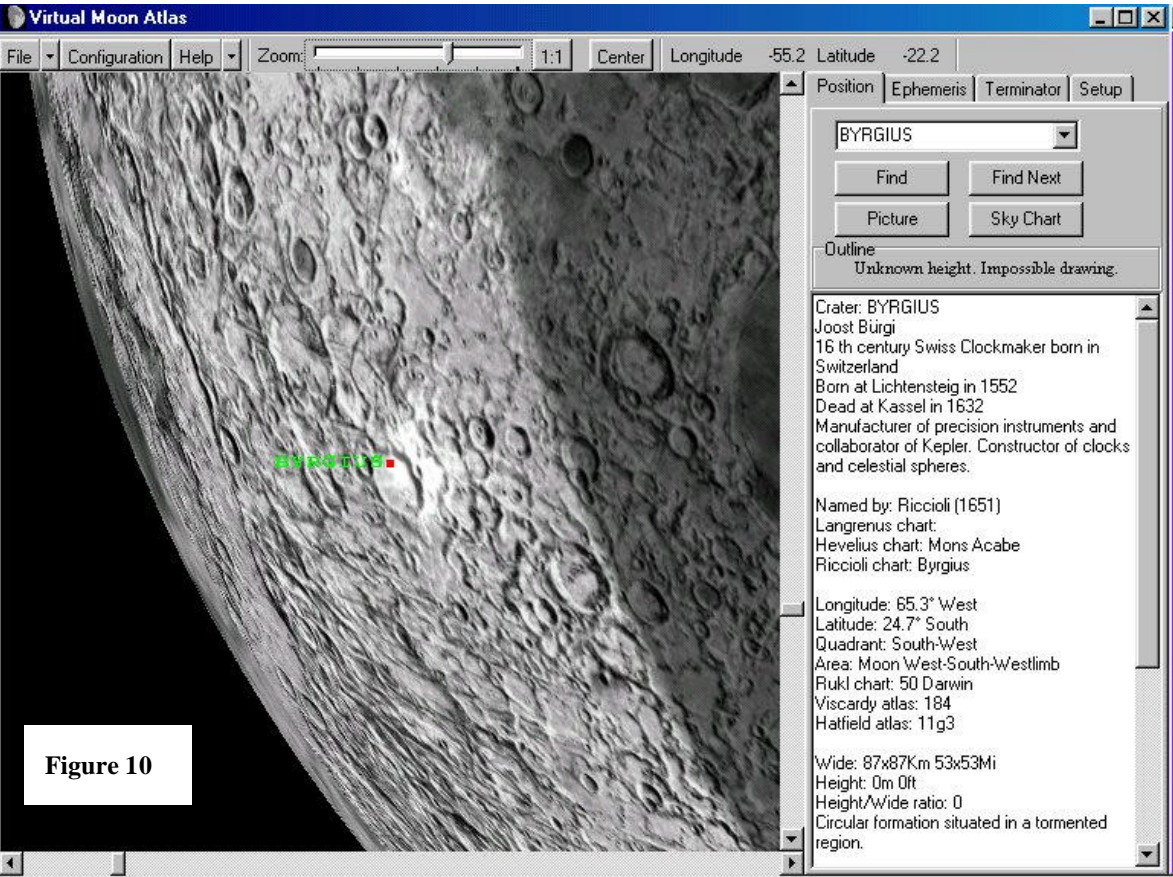

Figure 10

Play around for a while, moving the cursor over the Lunar surface, and zooming in on interesting features. You'll notice that everything works very smoothly, and that the Lunar latitude and longitude at your upper right updates as you move the mouse around.

Above the window currently holding the information for the "position" display, are the other window/menu tabs. Click on "Ephemeris," and

(recommended) and other things that will be familiar to you if you've set up an astro-program or two before.

With all the configuration data entered, you can begin playing with your new toy. The easiest and most natural way to use the program is by

you're interested in, you can next press the "find" button at the top of the Position window to center it (the program's "center" button centers the Lunar disk rather than your selected feature), and zoom in by using the slider at the top middle of the screen. As you can see in Figure 10, the display is clear and beautiful,

you'll find the window now filled with the Moon's vital statistics for the current time and date (or a time and date you select via controls and "tape recorder" style buttons at the top of the ephemeris window). It's all there—position in Earth's sky, distance, libration, phase, lunation, rise and set times, etc.

Next over is the "Terminator" tab. This is a list of features currently along the terminator, the Moon's sunrise/set line. Select one of the names from this list and the program will find and center it at the current zoom level. Control buttons allow you to sort this list by name, "interest" (how interesting), instrument (size of your scope), or latitude. Pull-down menus allow you to narrow your list according to interest level or scope size.

The final tab, "setup" controls lighting effects—how dark the unlit portion of the disk is, for example—and "performance," a control that lets you increase or decrease the graphic "frame rate" according to the performance capabilities of your graphics card to ensure maximum smoothness.

In addition to the obvious changes in phase, the program, pretty remarkably in my book, shows the libration of the Lunar disk, the "wobble" that allows us to see slightly more than half of the good, old Moon over time. Oh, and in addition to the normal features—mountains, craters, maria, rimae, etc.—the database includes all Lunar landing (or crashing) spacecraft, the Apollos, Lunas, etc.

Now, click the "help" menu and select "about." What do you see? "Virtual Moon Atlas v1.0" This program is hot off the press, so it's not surprising that some features you might consider indispensable are missing at this point. Foremost among these is the ability to rotate and flip the Lunar image to match what's seen in your particular design of telescope. Sure, Lunar observers have been dealing with this forever with printed charts, but a computer program lends itself to allowing you this very useful function. There is also no print function as yet. You can, of course, do an alt-print-screen to place the display on your

clipboard for pasting into a graphic program, but this is not really satisfactory. There could be more Lunar features, too. And some options for displaying more than one feature label at a time. More Lunar Orbiter photos are also needed, and a way to control brightness/contrast of these images. The ability to zoom in a little closer would be welcome as well.

As a matter of fact, I've written Mr. Chevalley, and he's promised that just about all the above "improvements" will be considered for future releases. Frankly, I'm amazed that 1.0 runs as well as it does. This is an interesting effort in a whole new type of astronomy software, and it deserves to be on your hard drive!

Diana, you never looked so lovely!

Get it from: http://astrosurf.com/avl/UK_index.ht ml

My Back Pages

Club Notes

Mobile Astronomical Society (MAS)

An exciting couple of months are at hand as we kick off the Fall observing season! First up comes our September MAS Star Party/Picnic on 7 September. And the next cycle of the New Moon bring the Peach State Star Gaze (October 3-6). And things wind up with the famed Deep South Regional Star Gaze (October 30 – November 2) before Old Man Winter Sets in! Not enough for you? Our area is blessed with another one, The Chiefland Star Party (a GREAT one) immediately following Deep South!

SCT-USER

The second annual Imaging Competition is history! The 2002 edition of this contest was bigger and better than ever with prizes being donated by several astronomy vendors (Astrotec, Ron Wodowski and Scopetronix) and many plaques and certificates awarded! A big hand to our First Place winners:

1st Place Planetary Astrophoto Category
Monroe Harden
1st Place Planetary CCD Category
Larry Owens
1st Place Piggyback Astrophoto Category
Paul LeFevre
1st Place Beginning CCD Category
Roth Ritter
1st Place Beginning Astrophoto Category
Frank Barrett
1st Place Prime Focus Astrophotography Category
Rick Thurmond
1st Place CCD Image Category
Roth Ritter

Blessed, blessed fall. Beavis AND Butt-head are back in the loving arms of their teachers (hah!) and I have nothing to fear from flying mayo jars for a while. <CLONK!> OW! Forgot about those big windows on those yellow school buses…perfect for chucking a mayo jar kept on Funk Wagnall's' front porch for a fortnight (hermetically sealed, of course). A mayo Jar containing the very latest…

Rumours

If you've been waiting for the "SAFIX" spherical aberration corrector for your SCT, be prepared to wait a little longer. The latest we have from Aries (who also make the Chromacor for achromatic refractors) is: "…due to quality control problems with Aries contracting manufacturing to a third party, the SAFIX is not going to be available until at least the fall."

In the "Do Meade and Celestron Spend More on Lawyers than Engineers" Department comes this latest volley from the Celestron trenches in the legal wars between the telescope giants: "One of the first actions taken by Celestron's new owners was the filing of a Motion requesting a Federal Judge to determine that Celestron's NexStar® Series

telescopes do not infringe Meade Instrument's U.S. Patent No. 6,304,376. In its Motion For Partial Summary Judgment, Celestron contends that its NexStar Series telescopes are fundamentally and distinctly different from the alleged invention claimed in Meade's patent, and therefore that they do not infringe." I can certainly understand Celestron's need to respond, but still I wonder: have Meade and Celestron considered that the way to get ahead is KEEP THEIR CUSTOMERS HAPPY rather than sue the other guy out of existence?

What's up with the Wal-Mart of telescope sellers, friendly Orion? Well, what began with their elimination of their Vixen line and continued with their decision to stop selling Celestron equipment has evolved into a policy of "All Synta All the Time!" It's hard to find much in the current catalog that is not from the Mainland China optical house. While this may be a good thing for Orion in that the profit margin must be larger than what it is for more "advanced" equipment, the switch to all-import gear means that they don't have much to offer observers who've progressed past the novice stage. It ALSO means that Orion does not have a goto system to offer beginners. And this may be a fatal flaw in their strategy. We'll see.

In other Orion News, it appears that their new line of Chinese "ED-2" eyepieces has hit the street with a resounding PLOP. "*Plop*," as you know, is a cousin to "*flop*," and that appears to be the fade of the EDs. Before their release, these eyepieces were being touted in the amateur community as "bargain Radians." Apparently there were lots of orders in addition to excitement. Unfortunately, user reports we're getting say that the eyepieces, though nicely priced, are generally poor in quality, both in edge-of-field performance and general

sharpness. Ah, well, we keep hoping for a **really** good 50-dollar eyepiece.

When WILL Celestron DO something about their poor 9.25" SCT? Poor as in "unfortunate," not as in "poor quality," you understand. I think most folks would agree this is one of the *best* SCTs around. But, unfortunately, Celestron insists on saddling it with that insufficient Chinese "CG5" (AKA EQ4, AKA "Glue Grease Special") mount! Celestron! **Yer shootin' yerselves in the foot with this one! Sure, people can buy the OTA separately and put it on any GEM they want, but lots of people want a complete package. PUT THIS FINE SCOPE ON A CI700, AN EQ6, THE LOSMANDY GM8 (AGAIN)…ANYTHING!** Actually, folks, I have some intelligence that Celestron is aware of all this and will be doing something about it before long.

--The Anonymous Astronomer

"Unca Rod, is there **REALLY** a Chaos Manor South?" **"Sure there is, Skeezix**; here's the stately and storied edifice, just as it is today, situated right on the border of the Great Possum Swamp!"